Abstract

A process for producing an alumina coating composed mainly of α-type crystal structure especially excelling in heat resistance, comprising (1) providing a laminate coating including a hard coating composed of a metal component containing Al and Ti as unavoidable elements and a compound of B, C, N, O, etc., oxidizing the hard coating to thereby form an oxide-containing layer, and forming an alumina coating composed mainly of α-type crystal structure on the oxide-containing layer. Alternatively, the process comprises (2) forming a hard coating composed of a metal whose standard free energy for oxide formation is greater than that of aluminum and a compound of B, C, N, O, etc., oxidizing the surface of the hard coating to thereby form an oxide-containing layer, and forming an alumina coating while being accompanied by reduction of the oxide at the surface of the oxide-containing layer.